



P H I L O S O P H I C A L
T R A N S A C T I O N S.

I. *An Account of a new Comet. In a Letter from Miss Caroline Herfchel to Charles Blagden, M. D. Sec. R. S.*

Read Nov. 9, 1786.

S I R,

I N consequence of the friendship which I know to exist between you and my Brother, I venture to trouble you in his absence with the following imperfect account of a comet.

The employment of writing down the observations, when my Brother uses the 20-feet reflector, does not often allow me time to look at the heavens; but as he is now on a visit to
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Germany, I have taken the opportunity of his absence to sweep in the neighbourhood of the sun, in search of comets; and last night, the 1st of August, about 10 o'clock, I found an object very much resembling in colour and brightness the 27th nebula of the *Connoissance des Temps*, with the difference however of being round. I suspected it to be a comet; but a haziness coming on, it was not possible intirely to satisfy myself as to its motion till this evening. I made several drawings of the stars in the field of view with it, and have inclosed a copy of them, with my observations annexed, that you may compare them together.

August 1, 1786, 9 h. 50', the object in the center is like a star out of focus, while the rest are perfectly distinct, and I suspect it to be a comet. Tab. I. fig. 1.

10 h. 33', fig. 2. the suspected comet makes now a perfect isosceles triangle with the two stars *a* and *b*.

11 h. 8', I think the situation of the comet is now as in fig. 3.; but it is so hazy that I cannot sufficiently see the small star *b* to be assured of the motion.

By the naked eye the comet is between the 54th and 53d Ursæ majoris, and the 14th, 15th, and 16th Comæ Berenices, and makes an obtuse triangle with them, the vertex of which is turned towards the south.

August 2. 10 h. 9', the comet is now, with respect to the stars *a* and *b* *, situated as in fig. 4. therefore the motion since last night is evident.

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* A doubt having arisen about the identity of the stars marked *a* and *b* in the figures, I have examined that part of the heavens in which the comet was the 1st of August, in order to settle this point, but find so many small stars in that neighbourhood that I have not been able to fix on any of them that will exactly

10 h. 30', another considerable star *c* may be taken into the field with it, by placing *a* in the center; when the comet and the other star will both appear in the circumference, as in fig. 5.

These observations were made with a Newtonian sweeper of 27 inches focal length, and a power of about 20, the field of view is $2^{\circ} 12'$. I cannot find the stars *a* and *c* in any catalogue; but suppose they may easily be traced in the heavens; whence the situation of the comet, as it was last night at 10 h. 33', may be pretty nearly ascertained.

You will do me the favour of communicating these observations to my brother's astronomical friends.

I have the honour to be, &c.

CAROLINE HERSCHEL.

Slough, near Windfor,
Aug. 2, 1786.

answer these figures; and as they were drawn from observations made by moonlight, twilight, hazy weather, and very near the horizon, it would not be at all surprising if a mistake had been made: however, as these figures were only given with a view to shew the motion of the comet, the conclusion of the change of place, which was drawn from them, was equally good whether these stars were the same or different.

Dec, 14, 1786.

WILLIAM HERSCHEL.

